

REMARKS

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Claims 1-11 and 13-20 stand finally rejected under 35 USC § 102 as being anticipated by Chung et al. U.S. Patent No. 6,171,453 or, in the alternative, under 35 USC § 103 as being obvious from Chung et al. Applicants respectfully traverse these rejections.

Applicants' invention is a shielding system and method of shielding a physical vapor deposition chamber, which includes the pedestal shield and sidewall shield as recited in the claims, which cooperate, when the pedestal is in the raised position, to prevent line-of-sight deposition transmission from the sputter target to the side and lower walls of the deposition chamber. Importantly, in the claimed system and method, the pedestal is movable between a lowered loading and unloading position and a raised deposition processing position and surrounded by chamber interior lower, side and upper walls. As stated in independent system claims 1 and 14, and in the second step of method claim 20, when the pedestal is in the lowered position, the claimed sidewall shield lower end is above the pedestal a distance sufficient to permit a wafer to be horizontally loaded onto the pedestal.

The Chung et al. patent cited against claims 1, 14 and 20 discloses a shielding system for a physical deposition chamber in which clamp ring 44 cooperates with lower chamber shield 48 (Figs. 3A and 3B), clamp ring 64 cooperates with lower chamber shield 68 (Figs. 5A and 5B) and pedestal shielding ring 84 cooperates with

lower chamber shield 48 (Figs. 6A and 6B). However, the cooperation between these parts only takes place when the pedestal 42 or 82 is in the lowered or "release position." In the raised or "process position" described in Chung, the aforementioned parts are separated, and there is no cooperation. This is precisely opposite to applicants' system and method, where the pedestal shield and sidewall shield cooperate when the pedestal is in the raised deposition processing position.

Furthermore, the Chung reference fails to meet the structural and functional limitations of applicants' claimed invention with respect to the position of the sidewall shield lower end that is above the pedestal, when the pedestal is in the lowered position, a distance sufficient to permit a wafer to be horizontally loaded onto the pedestal. The Examiner has acknowledged in the outstanding office action that the Chung reference fails to explicitly state how the wafer is loaded. However, the Examiner has taken the position that it would be inherent or obvious in Chung's design to remove part 48 via the connector pin to leave sufficient distance to load the wafer horizontally. Office action, p.3.

Applicant submits that it is neither inherent nor obvious from the Chung patent to remove shield 48 during loading or unloading. Chung makes no disclosure or suggestion of such removal. Moreover, the Examiner's statement that shield 48 needs to be removed in order to horizontally load a wafer onto the pedestal is an admission that Chung's shield 48 does not have a lower end that is above the pedestal, when the pedestal is in the lowered position, a distance sufficient to permit a wafer to be horizontally loaded onto the pedestal. If Chung's chamber shield 48 had a lower end that was above the pedestal when the pedestal is in the lowered position, it would not have to be removed for horizontal loading of the wafer. Since this limitation is in all

the independent claims, applicants' claimed invention is not anticipated or rendered obvious by Chung.

Accordingly, Chung's disclosed shielding ring does not meet the limitations of applicants' system claims 1-19 or method claim 20, and cannot anticipate those claims. Likewise, applicants' respective system and method claims are not obvious to one of ordinary skill in this art since there is no suggestion in Chung of modifying the shielding ring to work in the opposite manner.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'P. W. Peterson', written over a horizontal line.

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